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CYTODIAGNOSIS IN DERMATOLOGY.*

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Cytodiagnosis as a means of diagnosis in fresh tissues was introduced by Dudgeon and Patrick (1927). In a later paper Dudgeon and Barrett (1934) applied the wet film examination of tissues to the alimentary, urinary and lymphatic systems, to muscles, connective tissue, bone, central nervous system, breast and female genital system. Over 1000 cases were investigated. Dudgeon and Wrigley (1935) also demonstrated that particles of malignant growth can be identified with accuracy in sputum. Friedman (1951) confirmed the value of cytology in the diagnosis of malignancy in oto-rhino-laryngological practice. In 1943 Papanicolaou and Trant published a paper on the diagnosis of uterine cancer by vaginal smear.

The cytodiagnosis of dermatological conditions has been used systematically at the St. Louis Hospital in Paris (Tzanck, Bourgeois-Gavardin and Aron-Brunetière, 1948 ; Tzanck and Aron-Brunetière, 1949 ; Tzanck, Melki and Aron-Brunetière, 1951). Tzanck in a personal communication (1952) stated that Darier and he employed the method as long as 30 years ago.

The use of cytology in the rapid diagnosis of certain skin lesions has been investigated at St. John's Hospital for Diseases of the Skin and the results are presented in this paper. Tumours, bullous eruptions, and vesicular dermatoses due to viruses were examined.

Technique.

In order to obtain particles for cytological examination, a close search of the lesion (a lens is useful) should be carried out and the right place for removing tissue particles chosen. One must view the lesions with a " histological eye "

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in order to obtain the best piece of tissue for examination. Needless to say a thorough knowledge of the pathology of the conditions is indispensable for the interpretation of cytological findings.

1. *Tumours.*—If the tumour is ulcerated, the crusts are removed and the base cleaned. A blunt scalpel is used to scrape the base of the ulcer, and particles of tissue are spread as thinly as possible on a slide. If the fragments are too large, another slide is put on top of the first and the particles squeezed between them ; the mass is then spread over the slide, as in making a blood film. If the lesion is not ulcerated, the epidermis covering the tumour is pierced with a 4-inch Hagedorn needle, and the necessary tissue dug out.

2. *Bullous eruptions.*—It is important to find a fresh and intact bulla. The roof of the bulla is removed with scissors, the base dried with blotting paper, and then scraped gently with a blunt scalpel. The scrapings are spread thinly on a clean slide and dried in the air.

Older bullae, even if intact, are not suitable for interpretation, as secondary infection, degeneration of the cells, and regeneration at the base of a bulla may render the cytological picture difficult to read.

3. *Vesicular eruptions due to virus infection.*—The technique is the same as for bullous eruptions.

Staining.—All smears were stained in the routine manner with haematoxylin and eosin, the times taken and the strength of the solutions being exactly the same as for paraffin sections of biopsies.

Our experience is based on the examination of 126 cases :

Basal-cell epithelioma	43	Pemphigus	6
Squamous-cell epithelioma	4	Benign familial pemphigus	22
Paget's disease	1	Non-malignant tumours	10
Virus	7	Malignant melanoma	3
Dermatitis herpetiformis	30		

The following illustrations represent a few practical examples.

Tumours.

Case 1.—*Basal-cell epithelioma.*—A man with a cystic rodent ulcer. Slitting the intact epidermis over the tumour with a 4-inch Hagedorn needle and removing a few particles of the tissue which were spread thinly on a slide and stained with haematoxylin-eosin gave the diagnosis in a few minutes. The micro-drawing (Fig. 1) exhibits the characteristic cytological features of a basal-cell epithelioma. There are islands of tissue consisting of masses of cells showing hyperchromatic round or ovoid nuclei with hardly any rim of cytoplasm round them. Biopsy confirmed the diagnosis of basal-cell epithelioma (Fig. 2).

Case 2.—*Lupus carcinoma.*—Male aged 58 years. Lupus vulgaris since 1917. Developed on his left check a spreading ulcer for the last year. Scraping from the base of the ulcer showed numerous round epithelial cells with homogenized eosinophilic cytoplasm and a small round vesicular nucleus. The cells were loose with no

prickles. There was one multinucleated and one mononucleated giant cell. Mitotic figures were not found (Fig. 3). The tentative diagnosis was squamous-cell epithelioma. The histology showed an acanthosis of the epidermis with Bowen-like changes.

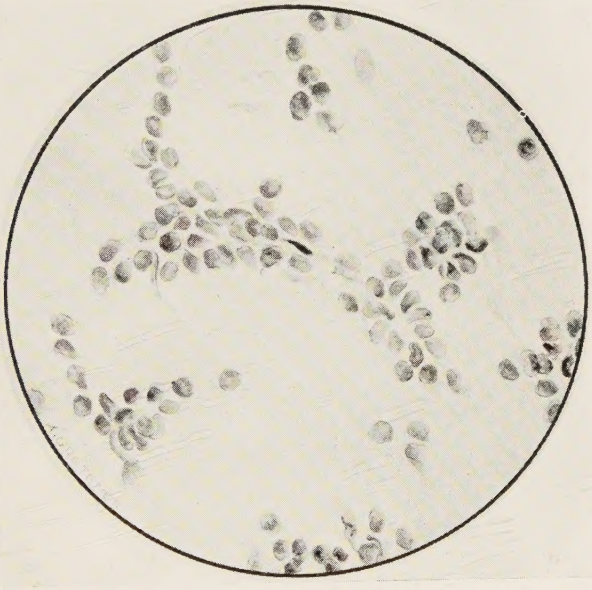

FIG. 1. × 210.

FIG. 2. × 60.

The architecture of the epidermis was disarranged, the cells showed pyknosis, clumping of nuclei, and a few mitotic figures (Fig. 4).

CASE 3.—*Squamous-cell epithelioma of the leg.*—A woman aged 77 years had a fleshy ulcer with a nodular base on the anterior surface of the left leg, and an enlarged hard gland in the left groin. The ulcer would not heal for a considerable time.

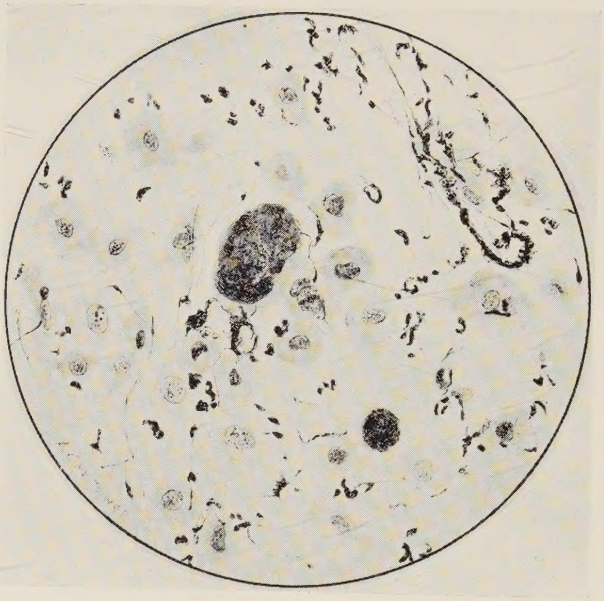

FIG. 3. × 210.

FIG. 4. × 60.

Scraping of the base of the ulcer showed masses of cells occurring both singly and in clusters (Fig. 5). The cells had an abundant eosinophile cytoplasm and large round nuclei with one or more distinct purple nucleoli. Mitotic figures were not seen. A diagnosis of squamous-cell epithelioma was made. The subsequent biopsy section

FIG. 5. × 480.

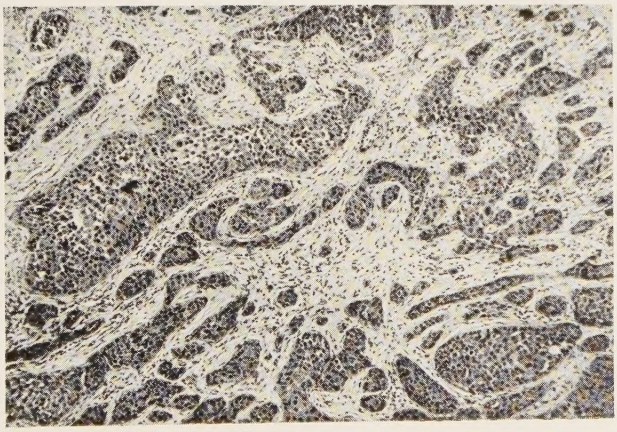

FIG. 6. × 143.

(Fig. 6) showing large islands of a tumour made up of the same type of cells as found in the tissue scraping confirmed the diagnosis.

One has to be very careful in diagnosing malignancy on a few cells only. It is necessary to look for masses of cells and to study them carefully. A few loose epidermal cells, even if they look atypical, mean nothing, as they can be found in any chronic inflammatory condition.

Case 4.—*Paget's disease of the nipple.*—A woman aged 73 years had a five-year history of a flaky " eczema " of the right nipple, which in the past 6 months had been spreading, moist and weeping. The diagnosis lay between eczema and Paget's

Fig. 7. × 480.

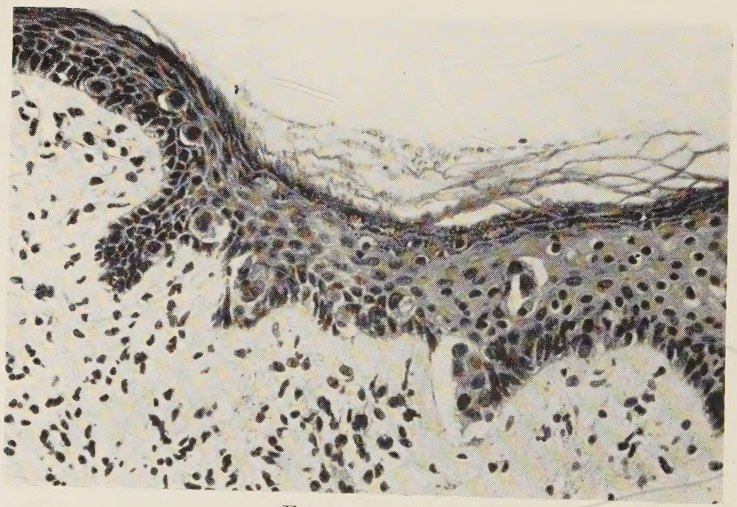

Fig. 8. × 150.

disease. Scrapings from the edge of the lesion showed several large anaplastic pale cells with a foamy cytoplasm, and a large hyperchromatic nucleus with one or several large nucleoli ; some nuclei were vacuolated (Fig. 7). The histology confirmed the diagnosis of Paget's disease. The epidermis showed loose hyperkeratosis and acan-

thosis. Lying within vacuoles there were single and grouped cells with a foamy and pale cytoplasm and a round hyperchromatic nucleus (Fig. 8).

Case 5.—*Malignant melanoma.*—A woman aged 54 years developed a dark, sharply-defined tumour over the internal malleolus of the left foot 3 or 4 months ago. There

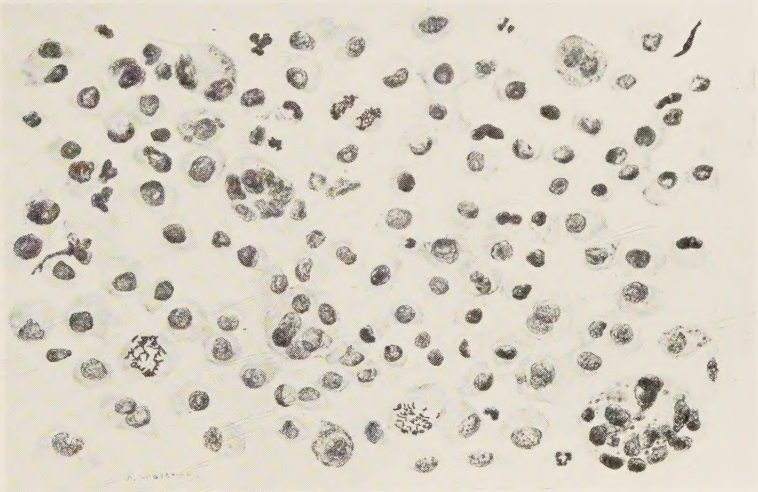

Fig. 9. × 215.

Fig. 10. × 175.

was a history of a little mole being previously in the place of the tumour. The tumour was excised and halved ; one half was processed for histological examination, and the other half was used for cytology. Scrapings from the cut surface of the tumour showed enormous numbers of cells lying singly and in clusters. The individual cells were large, round and with abundant protoplasm of a pale and foamy appearance. The nucleus was large, round, with one or more nucleoli, and there were many mitotic

figures. A characteristic feature was the presence of melanin pigment of golden colour and dusty quality, either occupying parts of the cytoplasm, or filling the whole cell including the nucleus. In some cells the melanin grains were coarse. One could also note melanin lying free, perhaps due to the disintegration of the cytoplasm of malignant cells. There were many multinucleated cells, some containing up to 15 nuclei (Fig. 9). The histology was typical of a malignant melanoma (Fig. 10). The other two melanomata examined showed a similar cytology.

Conclusion.—The method of diagnosing skin tumours by this cytology is simple and useful. Basal-cell epitheliomas can be diagnosed with confidence ; squamous-cell epitheliomas have a distinctive cytology that varies with the degree of malignancy. Cases of malignant melanoma are not suitable for scraping, because of the danger of spread. The tumour ought to be excised widely and cut in two, half of which should be examined histologically, and the rest may be used for cytological studies.

The cytology cannot, of course, determine the true architecture of a tumour. It is therefore limited in its object, but it is helpful in the following circumstances :

1. Where a quick preliminary diagnosis is requested.
2. If the patient refuses biopsy.
3. In very old people.
4. If there are no histological facilities available.
5. In lesions difficult of access (such as corner of the eye, mouth, nostril, etc.).

Bullous Eruptions.

Civatte (1943) has shown that pemphigus (vulgaris, foliaceous, vegetans) and Hailey-Hailey's disease form bullae by an acantholytic process of the epidermal cells. The cells lose their prickles by some unknown mechanism, and intercellular clefts form into which fluid from the underlying corium passes to form vesicles and bullae. In the past few years this view has found general acceptance both in Europe and America, and on this criterion it is now possible to separate the pemphigus group from the other bullous dermatoses. The bullous variety of dermatitis herpetiformis, erythema multiforme, bullous drug eruptions, and the dystrophic type of epidermolysis bullosa form bullae by the total detachment of the epidermis from the corium.

Whereas pemphigus bullae or vesicles are all situated within the epidermis, bullae of the second group are subepidermal in position. The fundamental difference however between the two groups is the presence of acantholysis in the pemphigus lesions and the absence of acantholysis in the others. The situation of the bulla is of only secondary importance.

Case 6.—*Dermatitis herpetiformis.*—This patient presents the bullous variety of dermatitis herpetiformis, also known as senile dermatitis herpetiformis, or bullous pemphigoid (Lever, 1953). The histology shows a subepidermal bulla ; the roof is

formed by the epidermis totally detached from the corium and the base is provided by the papillary body which is infiltrated with eosinophils (Fig. 11).

Scrapings from the base of the bulla show many eosinophils and coagulated serum (Fig. 12).

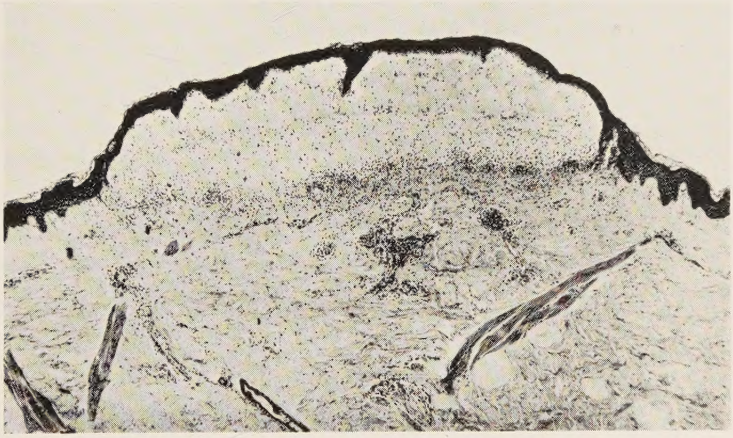

FIG. 11. × 17.

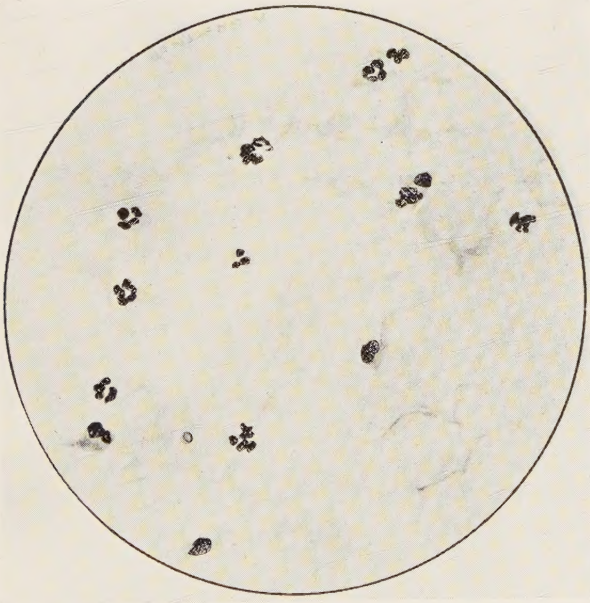

FIG. 12. × 315.

Any subepidermal bulla will give similar results. Dermatitis herpetiformis will have an abundance of eosinophils ; erythema multiforme, inflammatory cells and debris ; epidermolysis bullosa, no cells at all if the bulla is fresh ; but it is impossible to make a differential diagnosis. It may also be added that some cases of dermatitis

herpetiformis show a few acantholytic epidermal cells, but they are usually very few.

The Pemphigus Group.

Case 7.—*Pemphigus vulgaris.*—A male Cypriot aged 41 years. Started with bleeding of the nose 3 months ago. One month later blisters appeared on the chest, trunk and in the mouth. Biopsy of an intact little bulla showed an intraepidermal bulla. Its roof is formed by the greater part of the epidermis, and the base is provided by a well-formed papillary body covered with one or more layers of epidermal cells. In some places only clefts have formed, as little fluid has passed into the slits (Fig. 13). The bulla contains coagulated serum, a few acantholytic cells, and inflammatory cells.

By removing the roof and scraping the base of the bulla, one obtains a cytological picture as in Fig. 14. There are large numbers of epidermal cells without prickles, lying loose or in clusters. The individual cell is round or polygonal. The nucleus

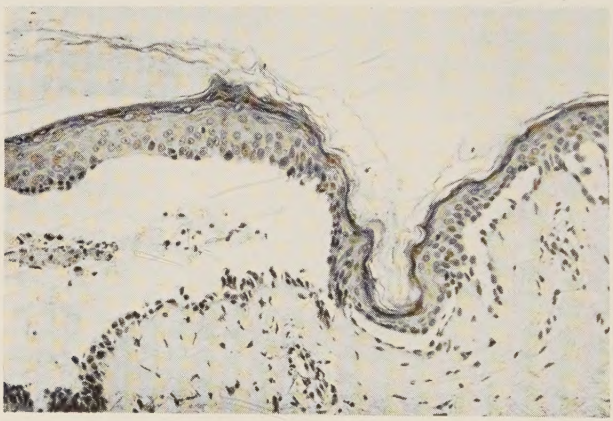

Fig. 13. ×215.

is round and hyperchromatic. Around the nucleus is a halo, and the peripheral cytoplasm stains darker. This cell is characteristic and is found in great numbers in the smears of pemphigus. Some cells are not typical, and there may be transitions to normal-looking cells. As a few acantholytic cells are sometimes seen in dermatitis herpetiformis, only a large number of these typical cells permits the diagnosis of pemphigus. Occasionally one finds mitotic figures and cells containing melanin or keratohyalin ; this merely indicates that acantholysis may take place in any level in the epidermis.

According to Tzanck, cases of subacute pemphigus in addition to typical acantholytic cells also show many multinucleated giant cells. One such case was observed, the cytology of which is illustrated in Fig 15. There are many acantholytic cells, and two multinucleated giant cells and several mitotic figures made the cytological picture resemble that of a malignant tumour.

Case 8.—*Pemphigus foliaceus.*—Pemphigus foliaceus shows a different histological picture. Acantholysis takes place in the region of the stratum granulosum. This leads to disintegration of the granular layer and a continuous exfoliation. The stratum spinulosum is also involved in the process, as shown by the appearance of

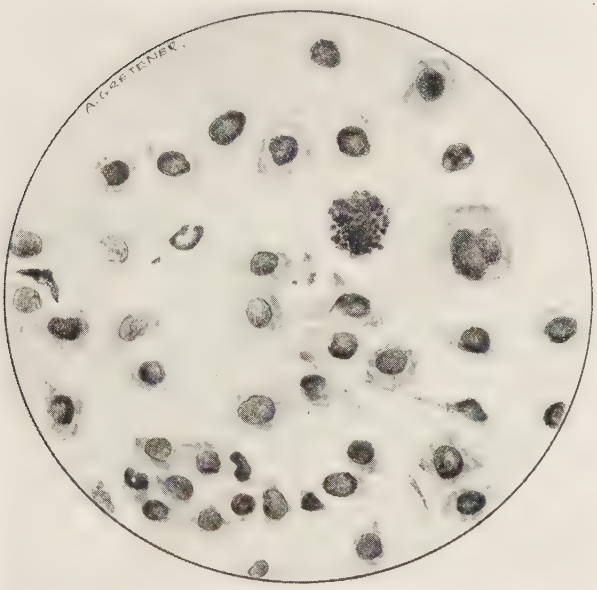

Fig. 14. × 480.

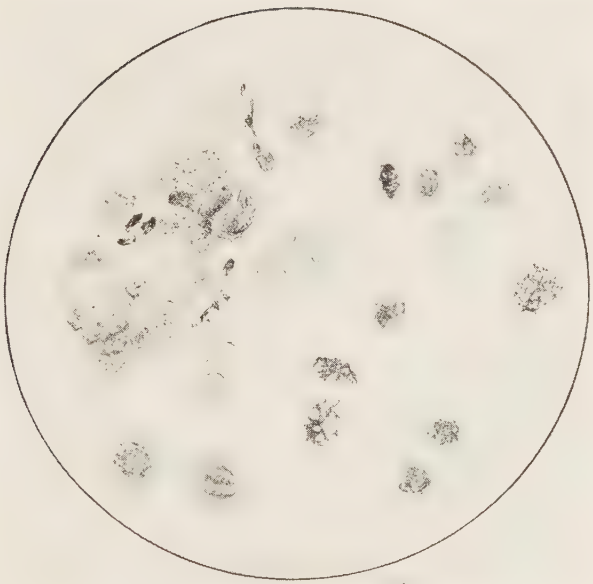

Fig. 15. × 315.

many cracks within the rete (Fig. 16). The cytology of such lesions is not satisfactory. If bullae appear they are situated under the stratum corneum, the roof of the bulla being formed by the horny layer with few granulosum cells attached to it, and the base provided by the uppermost layers of the rete. Scraping reveals numerous loose epidermal cells without prickles, with rounded or polygonal contours. The rim of cytoplasm is condensed and stains darker; around a vesicular nucleus there is a perinuclear halo. The cells appear slightly keratinized, and many loose granular cells are also seen (Fig. 17).

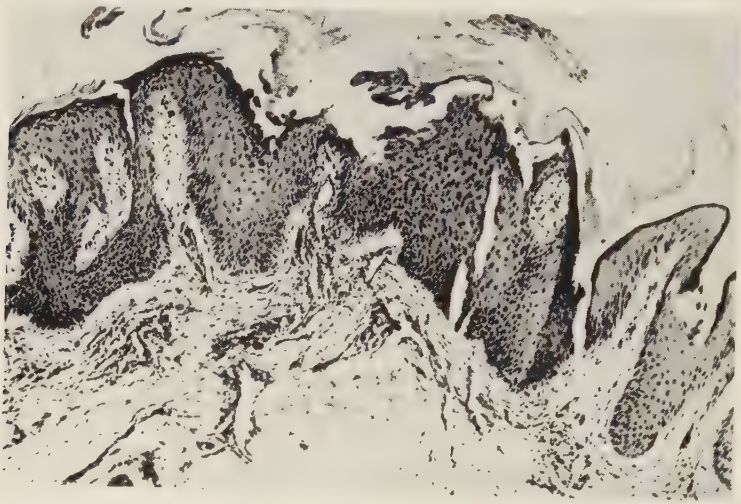

Fig. 16. × 60.

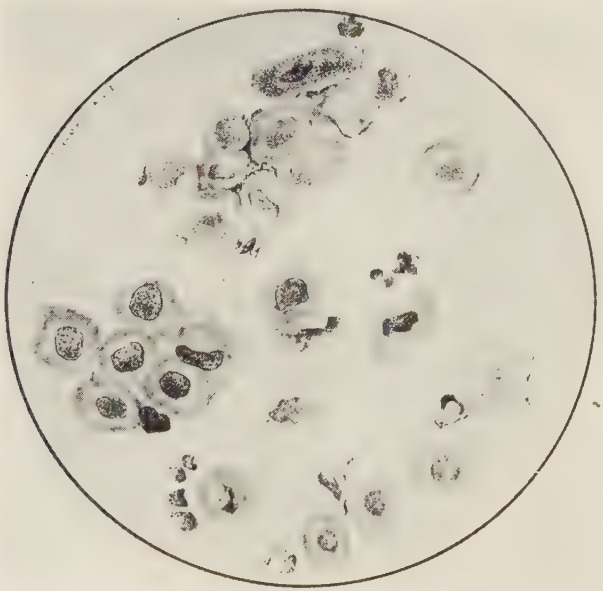

Fig. 17. × 480.

Pemphigus vegetans.—The histological picture is characteristic. There is much acanthosis amounting sometimes to pseudo-epitheliomatous downgrowth of the epidermis ; micro-abscesses containing eosinophils are pathognomonic, and acantholysis, which may or may not be very obvious, may take place in any layer of the epidermis. Ulcers of the mouth or edges of vegetating plaques are most suitable for scraping, and have a cytology identical with that of pemphigus foliaceus and vulgaris.

Case 9.—*Familial benign chronic pemphigus* (*Hailey-Hailey*).—A man aged 60 years had intertrigo-like lesions in the crural region for many years, which were worse each summer and sometimes disappeared completely during the winter. On examination there were on the inner sides of both thighs an oozing area, covered in some places by a soggy epidermis. On the edge of the plaque were distinct small blisters, some intact and some slightly torn.

Fig. 18. × 315.

Scraping of the base of a blister showed numerous epidermal cells lying singly and in clusters (Fig. 18). Quite a number of them have the features of an acantholytic cell but the majority are not characteristic and have an eosinophile cytoplasm and a vesicular nucleus with granular chromatin. The contours of these cells are ragged, indicating remnants of prickles, and mitotic figures are not difficult to find. The histology of the lesion shows an acanthotic epidermis, with intraepidermal bulla and cleft formation due to acantholysis. Many acantholytic cells lie within the cavity (Fig. 19).

Conclusion.—Cytology is a simple and quick test for distinguishing acantholytic lesions from other vesicular eruptions.

Vesicular Eruptions Due to Virus.

Herpes simplex.—The typical lesion of herpes simplex is an intraepidermal vesicle, the roof of which is formed by degenerated prickle cells and an imper-

fectly keratinized horny layer and the floor by the rest of the epidermis. It contains coagulated serum, fibrin fibres and many mono- and multinucleated balloon cells. In the early stages there is proliferation of the epidermal cells.

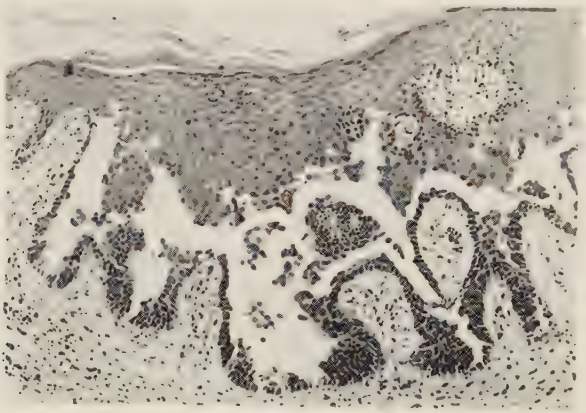

Fig. 19. × 265.

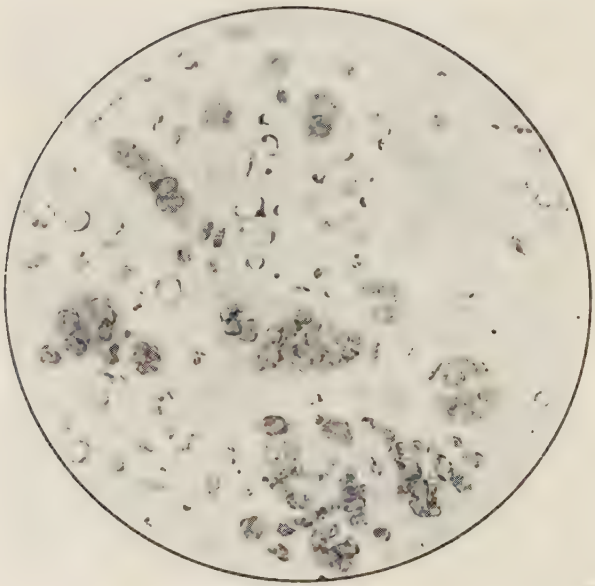

Fig. 20. × 210.

some of which contain acidophile inclusion bodies lying in the centre of a disintegrating nucleus, the chromatin of which is pushed out to the nuclear margin. Later many cells undergo necrosis leading to "balloon degeneration." These cells are mono- and multinucleated. Degeneration of cells leads to loss of

prickles and to cleft formation into which fluid from the underlying inflamed corium enters to form a vesicle.

The cytology has a characteristic picture. There are large numbers of multi-

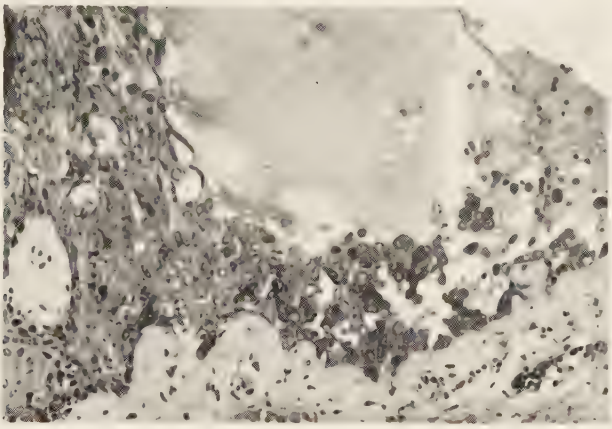

Fig. 21. 210.

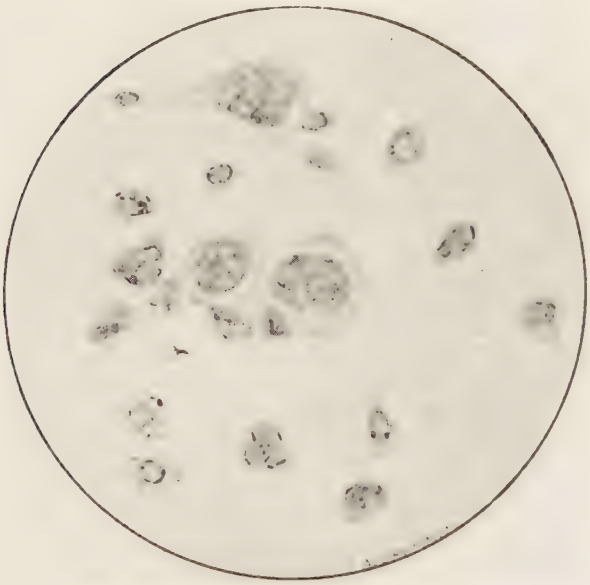

Fig. 22. × 210.

nucleated and mononucleated balloon cells, intermingled with many inflammatory cells, coagulated serum and fibrin. Some nuclei show eosinophile bodies and margination of chromatin (Fig. 20).

Zoster and varicella.— In zoster and varicella the changes are the same,

Acanthosis takes place first, and many nuclei of infected cells contain spheroidal acidophile bodies, with their chromatin marginated. The inclusion bodies may also enter the cytoplasm after the nucleus has degenerated. Amitotic division leads to multinuceated giant cells followed by necrosis or by " balloon degeneration." Intercellular clefts form into which fluid from the underlying inflamed corium penetrates to form vesicles. There is then an intraepidermal vesicle containing coagulated serum, fibrin and many loose epidermal cells, many of which are mono- and multinucleated balloon cells. A fair admixture of inflammatory cells completes the picture (Fig. 21).

The cytology is illustrated in Fig. 22 ; the smears show many mono- and polynucleated balloon cells, and the nuclei exhibit margination of chromatin. The histology of varicella is the same.

Conclusion.—By finding mono- and multinucleated balloon cells, one can offer a cytological diagnosis of herpes simplex, zoster or varicella. It seems impossible to distinguish the three conditions, either histologically or cytologically.

Summary.

1. Cytology as a means of diagnosing certain skin diseases was revived by Tzanck and his collaborators, although it has been practised for years in other branches of medicine.

2. The technique is simple.

3. A thorough knowledge of the pathology of the condition to be examined is indispensable.

4. Cytology is useful for rapid diagnosis, but it is limited to certain groups of diseases, i.e., tumours, bullous eruptions and virus diseases.

5. Cytology is not a substitute for histology.

I am indebted to Miss A. Gretener, artist to the Institute of Dermatology, for the cytological drawings ; and to Mr. R. J. Lunnon, M.B.I.P., photographer to the Institute of Dermatology, for the photographs.

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ITCHING PURPURA.

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Since 1946 I have seen a number of cases of a dermatosis which differs in many respects from any previously described. The records of 32 are available and form the basis of this contribution. The disease is a purpura of fairly acute onset; the appearances are those of many forms of cutaneous haemosiderosis; the most striking peculiarity is early, severe and persistent itching.

Clinical Features.

Age.- Table I demonstrates that the disease affects adults only and shows no predilection for any age-group.

Table I.—*Age Distribution of 32 Cases.*

Decade.	Number of cases.
20–29	5
30–39	8
40–49	6
50–59	7
60–69	4
70–79	2

Sex.—This series contains 17 males and 15 females.

Season and climate.—There was no tendency for the condition to appear or to re-appear at any particular season. Twenty-six cases were from the Transvaal, 4 from other provinces of South Africa and 2 had experienced their first symptoms in England. It is therefore assumed that the disease is not peculiar to South Africa.

Cause.—No common factor could be found in these cases. Two patients were emotionally unstable and one of these had taken barbiturates regularly for some years; in no case was there a history of antecedent major or minor illness. No external factor, such as khaki clothing or application of chemicals, was concerned.

Symptoms and signs.—In most patients the condition begins symmetrically on the front and sides of both ankles and extends upwards to involve legs, thighs, hips and buttocks in 3 or more weeks. In 2 cases the rash began on the hips and spread downwards. The foregoing details were supplied by the patients, as no case was seen by me within the first month. In 15 cases the trunk was involved and in 10 the fronts and inner sides of the arms and forearms were affected. The face and hands were spared.

Itching is early and severe. Most patients stated that it was present continuously, becoming intolerable when the body was warmed : loss of sleep was usual and consequent depression and loss of physical condition frequent.

FIG. 1.—Itching purpura. Duration 5 weeks.

The appearances (Fig. 1) are essentially those of Schamberg's disease of extensive distribution or of the eczematid-like purpura, as pictured by Douceas and Kapetanakis (1953). The primary lesion is a *bright red punctum*, identical with the "cayenne pepper spot" of Schamberg's disease and other forms of cutaneous haemosiderosis ; these lesions appear scattered or roughly grouped and after some days become light brown. When an area has been vigorously

rubbed or scratched the lesions become bright purple, i.e., more typically purpuric (Fig. 2).

Careful examination with a hand lens shows that in every case a certain number of *lichenoid papules*, less than 1 mm. in diameter, are present in the affected areas (Fig. 3). These usually have the colour of normal skin, in contrast to the red papules described in other forms of cutaneous haemosiderosis.

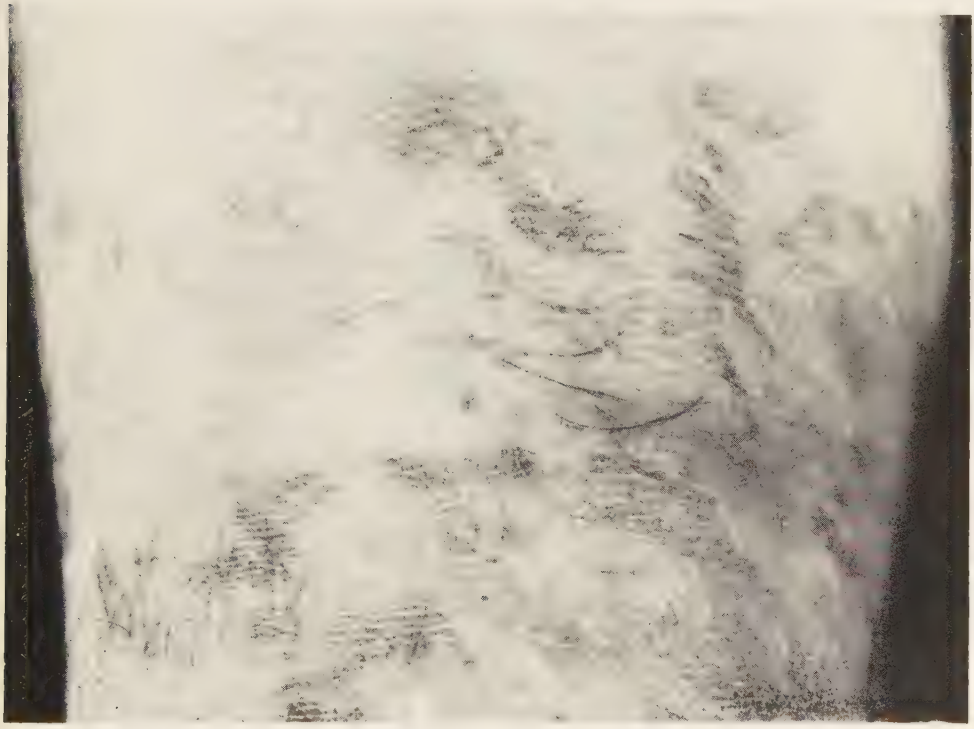

Fig. 2.—Early lichenification in popliteal area. Note intensification of purpura from scratching. Duration 9 weeks.

A third type of lesion is the *scaly macule* : this is constantly present on the hips and may also be seen in other areas. The colour is fawn and the size varies from that of a small coin to a large area 6 or more inches in diameter (Fig. 4). It is difficult to determine whether this macule results from the coalescence of puncta or develops as such from the beginning.

Lichenification results from scratching and is eventually present in every case. It is usually found first on the front of the ankles and behind the knees (Fig. 2), but may involve any of the affected areas, often to a marked degree. The large scaly macule of the hips often presents this change early. Excoriations are seen very commonly and show as purple streaks contrasting with the brick red tint of untouched lesions. Residual pigmentation seems to dis-

appear within 3 weeks : this estimate is based on a few cases only and may not apply generally. Chronicity and frequent relapses have determined that no case has been followed up adequately.

Five patients had a few minute white papules or striae of the buccal mucosa : it is not known whether these constituted a part of the disease.

Course.—The disease is subject to marked fluctuations, in some cases recur-

Fig. 3.—Papular elements on lower leg, exceptionally numerous in this patient.

Fig. 4. Macular lesions. The darkest area on the left buttock is the site of a recent punch biopsy.

ring after disappearing completely for several months. Intermissions vary from one week to ten months. In one case four attacks were seen in a period of 6 months, each time after the condition had apparently subsided. It is impossible to give the duration of the complaint ; some patients returned for periods of up to one year ; others were lost sight of after a month or two. It is my impression that some of these would have returned if they had not recovered ; attempts to follow them up have been unsuccessful. The minimum duration of the disease at the time the patient was lost sight of was 3 months.

Investigations.— In 12 cases the blood count, sedimentation rate, thrombocyte count, coagulation and bleeding time (Ivy and Lee White methods) were all within normal limits.

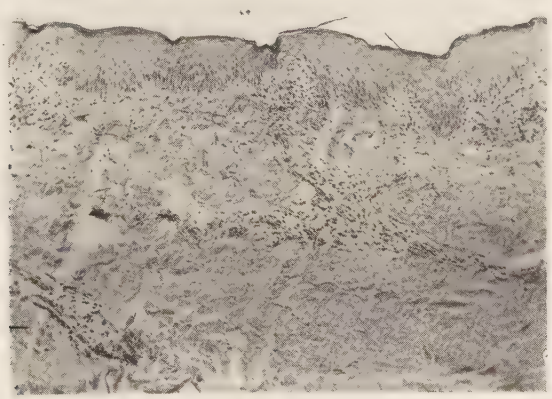

Fig. 5.—Early perivascular and papillary changes. × 66.

In 19 cases the capillary resistance was tested with the sphygmomanometer (Rumpel-Leede). The test was *negative* in all, but in 3 cases the colour of existing lesions was changed from red or light brown to purple, an intensification phenomenon.

Histology.—Biopsy specimens were taken in 5 cases. The significant features are in the upper corium. Changes are most marked in the papillae, which show intense oedema, infiltration of lymphocytes and occasional polymorphs and, later, extravasation of red blood corpuscles. The capillaries of the upper corium are dilated, but otherwise no changes in the blood vessels can be seen. In the mid-corium the same infiltrate is seen, tending towards a perivascular arrangement. Figs. 5 and 6 suggest that the condition begins as a focal reaction in the papilla itself and Fig. 7 that this is followed by an intense cellular reaction ; it is at this stage that red blood corpuslces are most readily seen lying free in the tissues.

Changes in the epidermis appear to be secondary to those in the papillary layer. They consist of moderate hyperkeratosis and occasional parakeratosis ; over foci of intense inflammation liquefaction degeneration of the basal layer may occur with complete loss of dermo-epidermal demarcation. In such areas spongiosis can also be seen but vesiculation has not been observed.

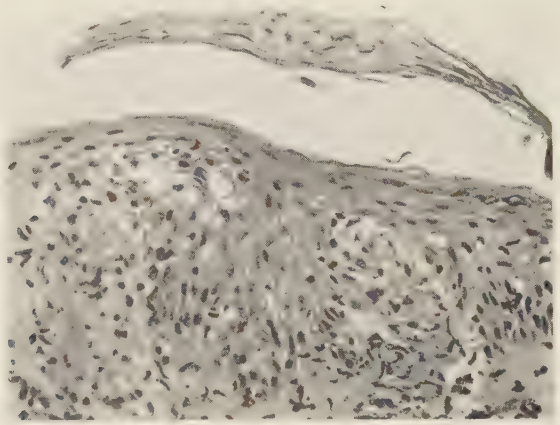

Fig. 6.—Well-marked oedema of papillae with cellular infiltrate. Parakeratotic corneum separated by artefact. Early spongiosis. × 233.

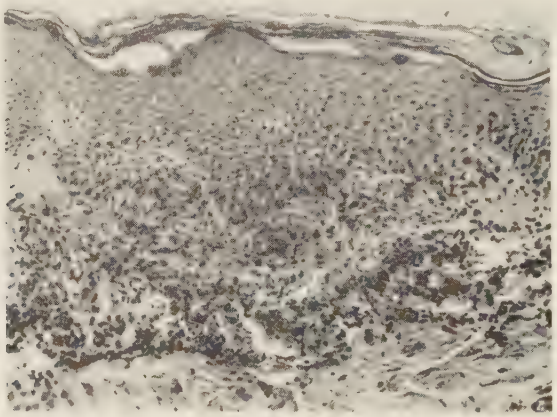

Fig. 7.—Dense lymphocytic infiltrate in papillary layer. Numerous red corpuscles were seen but do not show in the photomicrograph. × 150.

In 3 cases sections were stained with potassium ferrocyanide and granules of haemosiderin demonstrated : as in the case of Schamberg's disease described by me in 1929, the granules were extracellular in the corium and intracellular in the epidermis.

Treatment. No relief was experienced from taking anti-histaminic drugs, even in large doses ; most patients had been given an adequate trial of these

before being referred. Ascorbic acid and rutin were given in doses of 500 and 100 mg. daily respectively for one to two weeks in 5 cases; no subjective or objective improvement was noted.

Arsenic, as 3 to 4 minims of Fowler's solution thrice daily, was given to 10 patients who could be followed for some months. In all but one partial or complete relief from itching was obtained in 3 weeks, with relapse soon after stopping the administration of arsenic. This was also Findlay's (1953) experience. In one case the resumption of arsenic therapy was followed by diffuse erythema and oedematous swelling of the affected parts. Here the exhibition of cortisone in doses of 150 mg. daily resulted in prompt subsidence of the original condition, as well as of the diffuse inflammatory reaction. A second relapse of the itching purpura occurred 3 days after the administration of cortisone was stopped but responded promptly to treatment with cortisone for a further 3 months. In view of the fluctuating nature of this condition it is not permissible to draw conclusions regarding the effect of arsenic in these few cases.

Comment.

At this juncture it is advisable to submit a classification of the purpuras; this will make it easier to grasp the resemblances and differences of "itching purpura" and other forms of cutaneous haemosiderosis. The list that follows does not include conditions in which purpura is a complicating factor, for instance purpuric contact dermatitis, or where gravitational factors produce purpuric changes in parts of a widespread eczema in the aged; purpuric lichen planus is considered later.

1. *Systemic or Symptomatic Purpura.*

Under this heading are included cases of systemic infection, allergy and blood dyscrasia.

2. *Cutaneous Haemosiderosis.* (*a*) Purpuric eruptions of the legs resulting from circulatory disorders, the dermatitis haemostatica of Klotz.

(*b*) A group of rare chronic dermatoses which have been described under the following names:

Purpura annularis telangiectodes of Majocchi.
Progressive pigmentary dermatosis of Schamberg.
Pigmented purpuric lichenoid dermatitis of Gougerot and Blum.
Purpura télangiectasique arciforme of Touraine (1949).

These conditions are, according to many authorities, closely related, if not identical. In the opinion of Kierland (1951) and Randall, Kierland and Mont-

gomery (1951) angioma serpiginosum of Hutchinson and Crocker also belongs to this group and these authors found no single feature alleged to be peculiar to one dermatosis which could not also be found in the others. Touraine (1949) had previously come to the same conclusion, principally on histopathological grounds, but his work appears to have been overlooked by the authors cited above.

(*c*) Doucas and Kapetanakis (1953) described 129 cases of an eruptive purpura-like disease seen in Athens in the years 1949 to 1951 ; it appeared almost in epidemic form and was given the name " eczematid-like purpura," chiefly because of the histological characters. *Itching was mild or absent and ascorbic acid and rutin were therapeutically effective.*

(*d*) Slepyan (1951) reported that he had seen a large number of similar cases in recruits ; the purpura supervened about 10 days after an upper respiratory infection. I remember seeing a number of cases of what I took to be Schamberg's disease in soldiers in 1940 to 1945 and MacKenna (1944) also commented on the frequency of this condition. Slepyan does not mention itching ; in my cases it was absent and complete recovery took place in a few weeks.

(*e*) " Itching purpura."

Differential Diagnosis.

In its mode of onset, fluctuating course, morphology and histology the disease described here closely resembles the eczematid-like purpura of Doucas and Kapetanakis, though possibly the occurrence of epidermal spongiotic changes was more constant in their cases.

" Itching purpura " differs from the eczematid-like purpura of Doucas and Kapetanakis in several important respects, shown in Table II.

Table II. *Differential Characters of Eczematid-like Purpura and " Itching Purpura."*

	Eczematid-like purpura.	Itching purpura.
Incidence	Quasi-epidemic	Sporadic.
Itching	Negligible or absent	Constant and severe ; often intolerable.
Papular elements	Rare, red	Common, skin colour.
Thrombocytes	Diminished	Normal.
Capillary resistance (Rumpel-Leede)	Diminished in 90%	Normal.
Histology	Epidermal infiltrate and vesicles	Slight spongiosis. No vesicles.
Effective treatment	Ascorbic acid, rutin. Anti-histaminics when itching present	Arsenic (?) : ascorbic acid, rutin and anti-histaminics ineffective.

Both conditions are easily differentiated from the group of rare dermatoses described in 2 (*b*) above. These are usually chronic, often presenting only a

few isolated lesions; they may show circinate lesions, telangiectases and a tendency to atrophy, and they do not show scaling.

Itching purpura is commonly confused with "dermatitis" because of its severe itching and through carelessness in examination. Eczematous lesions are never seen. It is tempting to classify the condition as a variety of *lichen planus*, in view of the buccal lesions seen in 5 patients. However, the morphology, histology and course of itching purpura render this possibility most unlikely.

Cases of allergic vasculitis as described by Ruiter (1953) and the various symptom complexes of Gougerot (1950) differ from these in many respects, principally by showing papules reminiscent of urticaria, vesicles, pustules, necrosis and crusts. Clinically, there is no possibility of confusing these conditions.

Summary.

A form of cutaneous haemosiderosis accompanied by severe itching is described. Although it resembles eczematid-like purpura there are certain essential differences which make the identity of the two conditions unlikely. It is regarded as distinct from Schamberg's disease and other similar forms of cutaneous haemosiderosis.

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CONGENITAL POIKILODERMA WITH TRAUMATIC BULLA FORMATION AND PROGRESSIVE CUTANEOUS ATROPHY.

Dr. THERESA KINDLER.

Report of a Case.

The patient is a girl aged 14 who was born in normal confinement at the end of an uneventful pregnancy. She has had skin disturbances since birth, and has been under our observation at the Hospital for Sick Children since the age of $4\frac{1}{2}$.

History.—From birth blisters have appeared, partly with clear and partly with haemorrhagic contents, on her hands, arms, feet and legs, sometimes after trauma and sometimes spontaneously. At the same time red patches developed on her cheeks and neck. Later the mother noticed that the child's face became mottled ; she sunburned easily and her condition was much worse in summer.

Both blister formation and sun sensitivity almost ceased after eight or nine years. However, her skin still breaks easily and now and then in recent years a haemorrhagic bulla has appeared after insignificant trauma.

The red patches on her cheeks and neck have been gradually replaced by the present reticular changes which have slowly extended from the exposed to the non-exposed areas. At the same time progressive atrophic changes have involved increasingly large areas of the skin. For the past four years she has had a progressive eruption of pitted atrophic spots which started on the abdomen and spread over the greater part of the chest and the upper thighs. At present only the skin of the buttocks and back has a fairly normal appearance.

She has had swollen and bleeding gums since early infancy.

Family history.—There has been no syphilis, tuberculosis or mental disease in the family. Both parents and her only older brother are well. There is no consanguinity between parents or grandparents.

General examination.—A small slim girl, underdeveloped for her age, but of fair general health and average mental development. The hair of the scalp, eyebrows and eyelashes is normal. Lanugo hair is scanty on the extremities and absent on the trunk and abdomen. The teeth are normal. Secondary sexual characters are undeveloped, and menstruation has not yet started. Perspiration is generally normal, but there is hyperidrosis of palms and soles.

Examination of eyes, ears, nose, sinuses, heart and chest reveals nothing abnormal. The Nikolsky sign is negative. Blisters could not be produced experimentally by rubbing.

Investigations.—Blood count and urine normal. W.R.. Kahn and tuberculin reactions are negative.

Skiagrams : Chest and skull normal. Hands and feet : the terminal phalanges are more pointed than usual ; otherwise normal. There is no porphyrinuria.

We were unable to undertake any further investigations of her blood chemistry and metabolism, as both mother and child objected.

Fig. 1.—Net-like telangiectases with small white and pigmented spots and larger white and yellowish islets on neck, chin, cheeks and forehead.

Skin.—On the lower parts of the cheeks and on the chin and neck there is a close-meshed reticulum enclosing in its meshes small white and pigmented spots. In the gaps between the network there are white and yellowish circular and irregular islets 1–2 cm. across (Fig. 1). Over the malar regions the bright red reticulum merges into a more diffuse erythema: on the neck the previously red network has become more brownish especially on diascopy. There is a similar marbling on the inner surfaces of the upper parts of the arms and thighs and a dark brown reticular pigmentation on the axillary folds and in the groins.

Fig. 2.

On the face and forearms there are a number of large freckles and raised pigmented naevi. There are numerous telangiectases on the tip of the nose, on the alae nasi, and on the margins of the lips and eyelids. The lower lids are slightly retracted and do not meet the upper ones in normal closure. The ears are well formed, but their margins are purple and show telangiectases. The mucous membranes of the gums and oral cavity are bright red, of an unusual fragility and subject to frequent infections. There are a number of telangiectases on the buccal mucosa inside both cheeks.

On the abdomen, chest and thighs the skin is generally atrophic and shows fine scaling. On the lower abdomen and the inner surfaces of the thighs and knees there is a cigarette-paper-like wrinkling. In the area between the nipples and the mid-thighs is an eruption of numerous skin-coloured or light brownish pitted atrophic spots 2–3 mm. across, some of them showing a darker pigmented ring. On the nipples they resemble little punched-out scars.

The skin of the forearms and legs which was purple in earlier years has now a more normal colour, but is atrophic and glistening, and superficial veins are showing through. There are numerous pigmented spots, and recently a faint marbling interspersed with white areas has appeared. Over the dorsa of the hands, feet, wrists, ankles, elbows and knees the skin is purple-red, thin and wrinkled ; over the thin and tapered fingers it is so taut that active movements cause frequent fissuring. The fingernails and toenails are very thin and at their bases telangiectases are showing through. They are ridged, heaped up in their distal halves, and some show peripheral onycholysis. The skin of palms and soles is yellowish, thickened, hyperkeratotic, the natural folds more accentuated and often fissured (Fig. 2).

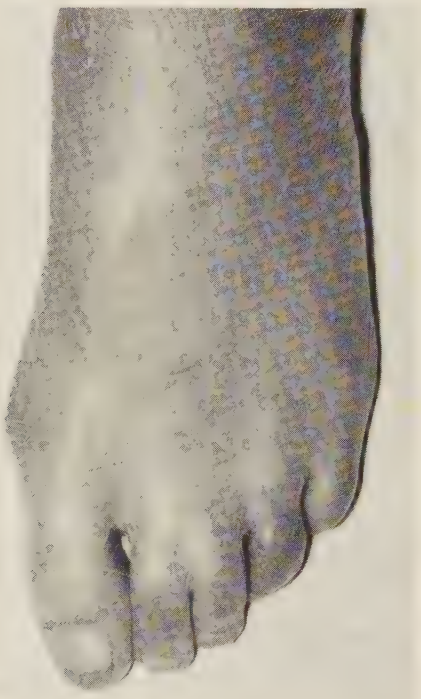

Fig. 3.—Skin over dorsum pedis atrophic, wrinkled. Webbing between 2nd and 3rd toe. Remains of a traumatic bulla on inner side of ankle.

There is symmetrical webbing between the second and third toes of both feet up to the interphalangeal joints (Fig. 3).

Histopathology. Skin of neck.—There is moderate hyperkeratosis ; the granular layer consists of a single row. The Malpighian layer shows alternating areas of normal or increased thickness and atrophy. In the atrophic parts pigment is scanty or absent, but in the others there is increased melanin pigmentation of the stratum Malpighii. A conspicuous number of clear cells of Masson is present. There is cleft formation between epidermis and cutis (Figs. 4 and 5).

The upper part of the cutis is oedematous and there are deposits of intra- and extracellular melanin in the papillary body. There is considerable proliferation of capillaries in the upper third of the cutis. The elastic fibres are generally well developed, but in parts of the papillary body they are diminished, attenuated or absent ; in the mid-cutis they are stretched and condensed. The collagen fibres show some

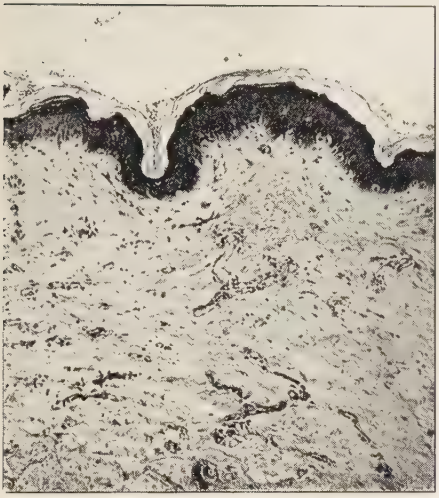

FIG. 4.

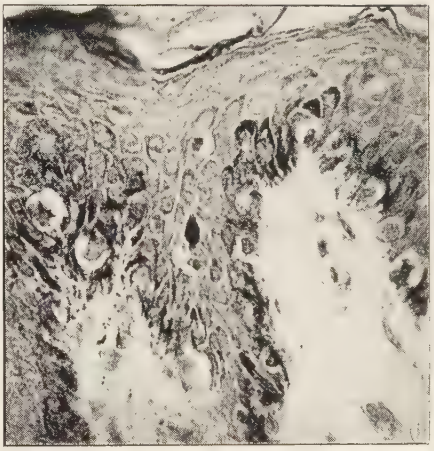

FIG. 5.

FIG. 4.—Skin from neck. Atrophy of epidermis alternating with normal thickness. Considerable proliferation of capillaries, oedema of cutis, no infiltrate. H. & E. × 78.

FIG. 5.—Skin from neck. Patchy melanin pigmentation of Malpighian layer. Clear cells of Masson in basal layer. Silver stain. × 374.

FIG. 6.

FIG. 7.

FIG. 6.—Abdominal skin. Atrophy of epidermis, clefts between epidermis and cutis. Proliferation and distension of capillaries. Collagen fibres fine, partly homogenized. H. & E. × 89.

FIG. 7.—Abdominal skin. Atrophy of epidermis, clefts between epidermis and cutis. Proliferation and distension of capillaries. Elastic tissue has almost disappeared from upper part of dermis. It is preserved and condensed in mid-cutis. Acid orcein. × 98.

homogenization. There is no infiltrate present. The follicles, sebaceous glands and the sweat apparatus are normal.

Abdominal skin.—There is considerable hyperkeratosis, both general and follicular, and some acanthosis at the edge of the lesion ; but in the centre the epidermis is very atrophic and is in places reduced to a few rows of undifferentiated cells. There is diffuse pigmentation of the basal layer and also of the acanthotic parts of the lower half of the prickle-cell layer. In the atrophic parts there are clefts between epidermis and cutis (Figs. 6 and 7).

There is proliferation and wide dilatation of the capillaries. The collagen fibres in the papillary and subpapillary regions are partly very fine, partly homogenized. The elastic fibres in this area are reduced to a few fine broken twigs or are altogether missing ; only around the follicles are they still preserved. In the mid-cutis they are stretched and condensed and in the deeper parts frequently coarse, broken and clumped. Here also there is no infiltrate. The follicles and sebaceous glands are greatly reduced, and the sweat glands show cystic dilatation.

The Prussian blue test reveals no iron in either section.

Discussion.

This case exhibits features of two congenital conditions—epidermolysis bullosa hereditaria (bullosis mechanica, Siemens) and poikiloderma congenitale.

According to Siemens (1923) and Cockayne (1933) there are probably several different conditions included in the group of epidermolysis bullosa which have the common characteristic of a congenital tendency to produce blisters after slight trauma. In the dystrophic type bullae may be present at birth and thereafter appear following trauma and independently of it. In some cases decrease or cessation of blister formation and vulnerability of the skin has been observed after a number of years. Hyperidrosis of palms and soles and exacerbation in summer have been frequently reported. Dystrophy of nails and webbing between fingers and toes are among the characteristic symptoms. Extensive atrophic changes were observed by Stühmer (1919) and Bettmann (1901) ; because of their symmetrical and uniform distribution they were not considered to be altogether the result of blisters. These features are also present in our patient.

On the other hand, the skin changes are very like those of the cases described by Thomson (1923, 1926) as poikiloderma congenitale and the similar cases shown by Dowling (1936), Lutz (1924, 1928), Naegeli (1924, 1927), Jessner (1928), Marchionini and Besser (1932) and others. A number of features prominent in our case were described in these patients. Syndactyly of fingers and toes was recorded by Naegeli (1927), Jessner and Marchionini and Besser ; palmar and plantar keratoses by Dowling, Rook and Whimster (1949), Hallman and Patiala (1951). Sensitivity to sunlight was reported by Dowling and by Buergi (1951), dystrophy of nails by Zinsser (1911) and Bloch and Stauffer (1929). Atrophic changes, either diffuse or striated, were described in many cases ; but I think they have not been reported before in such an extensive

progressive partly diffuse, partly macular form, which is reminiscent of the idiopathic cutaneous atrophies. It should be recalled that Oppenheim (1931) and Naegeli (see Lutz, 1924) classified poikiloderma as a variety of the former conditions.

Although I have not been able to find recorded another case of the association of congenital poikiloderma with bulla formation, the following report may be of interest in this connection. Mendes da Costa and van der Valk (1908) described a condition which they called a macular type of epidermolysis bullosa : Two brothers had from the age of three months scanty blisters, mostly on exposed areas. The condition was worse in summer. When the children were first seen at the age of one and four years respectively they had a dense symmetrical eruption of circular white spots in a bluish-purple skin. In some parts there was a net-like appearance and on the trunk there was pigmentation instead of cyanosis. Blisters were appearing infrequently and the authors did not know whether all the spots were the result of bullae. The older brother was microcephalic and both the children had short hands, short tapered fingers and atrichia. A biopsy was not performed. Although the type of inheritance in these patients, which appears to be a sex-linked recessive, differs from that of poikiloderma, the cases seem to have at least a clinical similarity with the present one. The partly net-like appearance, the symmetrical eruption of atrophic spots, and the blister-formation are reminiscent of our patient. The pigmentation, microcephaly and short tapered fingers have often been reported in congenital poikiloderma and the possibly allied syndrome of Rothmund (1868).

Another point of contact between epidermolysis bullosa dystrophica and poikiloderma is the type of genetic inheritance. Many cases of poikiloderma congenitale and juvenile have been reported in collateral members of a family, such as those of Zinsser, Janovsky (1921), Thomson, and Marchionini and Besser ; others occurred as isolated cases. The first appearance of a congenital disease in one or more siblings of a family suggests, according to Cockayne, a recessive heredity. On the other hand Siemens has established that in epidermolysis bullosa dystrophica the majority of cases are inherited as a recessive (1923).

The most striking histological features in our case are the considerable proliferation and dilatation of the capillaries (Naegeli, 1924), and the gradual atrophy and eventual disappearance of elastic tissue from the upper cutis. It is noteworthy that a number of authors, such as Engman and Mook (1910), and Kanoky and Sutton (1910), described marked atrophy of the elastic tissue in the clinically normal skin of epidermolysis patients, while others, such as Hodara and Behdjet (1923), Beck (1913), Siemens (1923) and Gans (1925) found these changes only in the atrophic cutis under the sub-epidermal blisters.

Other features in the histopathology of our case were cleft-formation between

epidermis and cutis, alternation of acanthosis with atrophy of the epidermis and corresponding hyperpigmentation and loss of pigment, absence of inflammation, and oedema and homogenization of the collagen fibres in the upper third of the cutis. The difference between the poikiloderma of the neck and the atrophoderma of the abdominal skin was of degree only, except that the follicles and sebaceous glands were normal in the neck section, while they were almost absent from the abdominal skin.

The occurrence of traumatic and spontaneous bulla formation in congenital poikiloderma could be caused in three ways : (i) The cause could be purely anatomical, i.e., the destruction of the supporting papillary elastic net with atrophy of the epidermis and disappearance of the interlocking rete pegs and papillae. The pressure of oedema in the cutis would then lead to formation of subepidermal lacunae. This can be ruled out as the sole cause since blisters have become extremely rare in recent years while the atophy of the skin has greatly increased. The anatomical condition may, however, be an adjuvant factor. (ii) There may be a fortuitous appearance of two different congenital conditions in the one patient. In view of the rarity of these diseases this would be a very remarkable coincidence. (iii) There may be a relationship between the two diseases, in which case this patient would be an intermediate case ; no conclusion can, however, be drawn from a single case.

Summary.

A case is described of a girl aged 14 who from birth had traumatic blister formation, progressive poikiloderma-like changes and progressive diffuse and macular atrophy which eventually involved the greater part of the integument. In addition there was dystrophy of the nails, webbing between fingers and toes, hyperkeratosis of palms and soles, and sensitivity to sun.

The simultaneous occurrence of two rare congenital conditions together with a number of malformations which have been frequently associated with both epidermolysis bullosa dystrophica and poikiloderma congenitale suggests either the coincidence of two rare congenital conditions in one patient or a relationship between these diseases.

It is a pleasure to thank Dr. R. T. Brain for his permission to publish the case.

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GRANEODIN OINTMENT IN VARIOUS SKIN INFECTIONS.

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NEOMYCIN, an antibiotic produced by certain strains of *Streptomyces fradiae*, has been found by a number of investigators to be particularly suitable for the local treatment of skin infections. Kile *et al.* (1952) and Livingood *et al.* (1952) used the drug in the form of an ointment or wet dressing in large series of cases with good results, and Livingood and Mullins (1952) have advocated the use of neomycin in bacterial infections other than those due to haemolytic streptococci. In a recent review, Pulaski (1953) has pointed out that the antibiotic is effective against a wide range of Gram-positive and Gram-negative organisms, is not prone to produce allergic sensitization and is not normally used systemically so that if sensitization should occur, the patient is not deprived of an important therapeutic agent which is administered orally or parenterally.

Although neomycin is active against a large variety of bacteria, its activity against certain streptococci is less significant. For this reason, an ointment containing both neomycin and gramicidin has recently been developed.* This product, termed "Graneodin" ointment, contains 2·5 mg. of neomycin and 0·25 mg. of gramicidin per gramme. It has been used in a series of cases with the results described in this report.

CASES AND RESULTS OF TREATMENT.

Graneodin ointment was employed in the treatment of 105 cases of various infections of the skin. These comprised impetigo contagiosa (50), sycosis barbae (10), infected nummular eczema (10), infected seborrhoeic dermatitis (14), infections of the eyelids (4), otitis externa (10) and secondarily infected insect bites (7). The results are shown in the table.

TABLE I.

Diagnosis.	No. of cases.	Result		
		Healed.	Improved.	Unchanged.
Impetigo contagiosa	50	46	4	—
Sycosis barbae	10	7	1	2
Infected nummular eczema	10	3	6 infection cleared	1
Infected seborrhoeic dermatitis	14	7	2	5
Infections of eyelids	4	4	—	—
Otitis externa	10	8	1	1
Infected insect bites	7	7	—	

*E. R. Squibb and Sons.

Most of the cases of impetigo had previously been treated by the local application of penicillin, but no improvement had resulted. In two of the cases, cultures yielded organisms insensitive to aureomycin and other antibiotics in frequent use. Of the 50 cases, 46 responded completely to Graneodin ointment in two to seven days, these including the two found *in vitro* to be resistant to other antibiotics. In the other four cases, the acute infection cleared, but a dry scaling persisted.

All of the cases of sycosis barbae were of fairly long standing and various remedies, including aureomycin cream, had previously been used. Seven were healed within three to four weeks.

Of the 10 cases of infected nummular eczema, three healed without further therapy. In six the infection cleared within a week and the response to subsequent treatment was accelerated.

Five cases of infected seborrhoeic dermatitis failed to respond to treatment and in all these cases the lesions were confined to the scalp. Of the remaining nine cases, in which the lesions were more widespread, seven healed entirely and two were improved.

All the cases of infections of the eyelids healed within seven days and eight of the cases of otitis externa showed complete response within 14 days.

The seven cases of infected insect bites were completely healed and a feature of this group was the almost immediate relief from pain and itching

No sensitization to Graneodin ointment was seen in this trial.

It is evident that this preparation is effective in a variety of skin infections of bacterial origin, but that a satisfactory response may not be obtained in seborrhoeic dermatitis of the scalp. There was no evidence of the development of bacterial resistance or of allergic sensitization, although some of the cases were treated for up to four weeks. The factors quoted by Pulaski (1953) appear to be applicable to Graneodin ointment because neither neomycin nor gramicidin is likely to be administered orally or parenterally. Thus there is no hazard of the patient being denied important systemic therapy in the event of sensitization occurring.

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ROYAL SOCIETY OF MEDICINE

SECTION OF DERMATOLOGY.

President—Dr. G. B. Dowling.

16 April 1953.

Case for Diagnosis. Pretibial Callosities.—Dr. J. S. Pegum.

H. H.—, aged 52.

Occupation : Hawker.

1913 : Received a kick on the left shin. Healing took six months.

1915 ; Kicked on the right shin when playing football. Healed in three months.

1921 : Fell through a van floor and scraped the right leg removing $1\frac{1}{2}''$ of skin and, he thinks, tissue down to the bone. Treated with dressings of perforated cabbage leaf and gauze. Healed in six weeks. When the lesion healed a " yellow coat " was left over the scar. He has since removed the " yellow coat " three times, revealing scarred skin beneath, but the " coat " has regrown.

1952 : Injured left shin. When this healed a similar " yellow coat " developed.

Other illnesses.—Gastric ulcer, pulmonary tuberculosis, bronchitis and emphysema.

On examination.—There is obvious anterior bowing of both tibiae.

Over the tibiae are hard, yellowish, horny plaques. The plaques and the skin surrounding them are bound down to the underlying bone. Surrounding the lesions are radiating venules.

Chest : Dorsal kyphosis. Emphysema.

W.R. negative.

Skiagram report : *Tibiae.*– " There is anterior and medial bowing of both right and left tibia and fibula, associated with a localized periostitis of all bones in the middle third, where the cortex is thinned anteriorly and the cancellous architecture appears abnormal. Such changes may be secondary to an extensive infection of the soft tissues such as accompanies a chronic skin ulceration from any cause. Although I cannot exclude a syphilitic osteitis, the changes are not characteristic of such, and I consider the first explanation most probable."

Comment.—I have called these lesions callosities, but I am not sure that this is accurate as there is no history of antecedent intermittent friction, such as one expects in that condition.

The second possibility is a syphilitic manifestation ; this is not supported by a blood test. The skiagrams in the opinion of the radiologist were not inconsistent with syphilis but are more typical of osteitis due to chronic ulceration.

The third possibility is a hyperkeratosis in some way secondary to trauma and subsequent inflammation.

Dr. L. Forman : A similar example was a patient of mine with numerous chronic septic ulcers of the leg and periostitis of both tibia and fibula. Syphilis was excluded; he was a most debilitated man living on a very poor diet. No vitamin C was found in the urine. Dr. Pegum's patient has a gastric ulcer, and said that he took his vegetables boiled and ate no fruit : possibly his intake of vitamin C is small. I think that the nutritional background of this patient may explain the persistence of his ulcers and periostitis.

Trichophyton Rubrum Infection of the Hand.—Dr. C. D. Calnan.

Case I.—M. S.—, female aged 40 ; dress machinist.

History.—Four years ago she first noticed thickening and discoloration of her toe nails. At the same time the right palm became dry and scaly and has remained unchanged since.

Examination.—Palmar surface of right hand is dry and thickened with scaliness and shallow fissures, especially along the lines of the joints and the palm.

The finger nails are dystrophic from fungus infection.

There is fine scaling on the soles and some desquamation of the toe webs. The toe nails on both feet are infected with fungus.

Mycelium is present on the right palm and both feet.

Cultures grew *Trichophyton rubrum.*

Case II.—W. C.—, a man aged 28 ; postman.

History.—Two years ago he noticed thickening and scaling with fissures on the palms and fingers of both hands, the right being more affected than the left. This began with his present job as a postman.

One year ago he attended hospital : fungus was not found in scrapings from the hand.

Examination.—There is thickening of the skin of the palm and palmar surface of the fingers of the right hand, with scaling about the joints and along the hand lines. The finger nails are normal.

The left sole shows some fine scaling only, and the 4th and 5th toe nails are infected with fungus.

Two months ago on re-examination fungus was found in scrapings from the right hand, left sole and toe webs. None has been found on the left hand.

Cultures have grown *Trichophyton rubrum.*

Dr. H. R. Vickers : These cases are difficult to treat because *Trichophyton rubrum,* unlike most other fungi, seems to produce no immunity in the skin. One never gets the "ide" eruptions as with the other types of fungous infection. I wonder whether that is the real difficulty underlying treatment. As to the nails, the only solution in these cases appears to be to remove and destroy the nail bed. We have one patient whom we have not so far treated in that way but we wonder whether we ought not to do so.

Dr. S. Gold : I think that some women are much happier after having their nails completely destroyed and wearing false nails than undergoing arduous treatment year after year.

Dr. Calnan : If one follows the case one will find the fungus still present and difficult to get rid of even if the nails are removed. I do not think the nails should be removed save exceptionally.

Chronic Discoid Lupus Erythematosus with Lichenoid Dermatitis and Diffuse Alopecia.—Dr. I. A. Magnus (for Dr. L. Forman).

Miss E. A.—, aged 39.

Past treatment.—This patient has been treated for chronic discoid lupus erythematosus of the face from 1937, having received various treatments including vitamin D, bismuth injections, and local freezing with CO_2 snow.

In 1942 she was started on a course of gold injections but after 5 had been given developed a generalized lichenoid eruption and they were stopped.

Recent treatment.—On 31 October 1952 put on mepacrine, 0·1 g. *b.d.* Twelve weeks later skin lesions appeared. Mepacrine was stopped seven weeks ago.

On examination.—The skin is stained with mepacrine. Lesions indistinguishable from lichen planus are present on the wrists, hands, and neck. A few circular scaly lesions are present on the upper arms and neck. The condition of the buccal surface of the cheeks closely resembles lichen planus. The pinnae and the scalp are diffusely and finely scaly. There is a diffuse alopecia which is getting steadily worse. The discoid lupus erythematosus of the tip of the nose has improved slightly after mepacrine.

Cortisone treatment is being considered for preventing further alopecia, scarring and excessive pigmentation.

We should be interested to know the incidence of skin reactions to mepacrine which is now widely used for lupus erythematosus. We have an impression that it is much higher than when used to suppress malaria.

Dr. F. Ray Bettley : I think this may be rather common, but one must remember that one is using much larger doses of mepacrine and over quite a long time. From my own cases and from what I have read it seems that there might be something like a 1% incidence, which of course is rather high.

The President : I recall one case of lichenoid eruption during treatment of lupus erythematosus with mepacrine. As far as appearances went it was lichen planus which raised the point as to whether there is any material difference between drug lichenoid eruption and idiopathic lichen planus.

Dr. H. R. Vickers : The interesting thing is that this patient had previously had a lichenoid eruption after gold, which looks as if she had something in her make-up producing or activating this form of eruption. In over 100 cases on mepacrine we have had three of these lichenoid eruptions, one of them very extensive.

Squamous Epithelioma of Leg.—Dr. Daphne Anderson.

W. G. B.—, male aged 51.

History (variable).—The condition apparently started twelve years ago as a patch 3 cm. across below the right knee. After applying ointment the lesion became purulent and a few weeks later an abscess developed behind the knee but healed after incision. The lesion on the leg persisted and gradually increased in size. At times it became purulent but then responded to Dettol and Germolene.

Examination (5 August 1952—before irradiation).—An irregular vegetating lesion 10 in. long and 6 in. wide was seen below the right knee. The surface was raised and pus welled up around the craggy vegetations which were present. The edge was smooth and well defined. The inguinal glands were of rubbery consistency and larger on the right side. Apart from bilateral enlargement of the epitrochlear glands there were no abnormal findings.

The case was shown at the R.S.M. in October 1952 as a pseudoepithelioma of Azua.

Special investigations.—15.*viii*.52 : *Histological section* (from the edge of the lesion) showed a subacute inflammatory reaction with pseudoepitheliomatous downgrowths of epidermis invaded by polymorphonuclear leucocytes and a few micro-abscesses. Pyodermia vegetans.

9.*ix*.52 : *Histological section* (from the centre of the lesion) showed that one part of the lesion was composed of chronic granulation tissue with overlying acanthosis, follicular and diffuse hyperkeratosis, while the other showed a low grade squamous cell epithelioma (Dr. H. Haber).

Wassermann and Kahn tests, bacteriological and mycological examinations were all negative.

A skiagram showed an early periosteal reaction in the middle third of the right fibula and to a lesser extent on the lateral border of the tibia.

Blood count : Hb 85 ; W.B.C. 13,850.

Treatment.—Mist. pot. iod. et hydrarg. for two weeks ; streptomycin 1 g. intramuscularly and aureomycin 2 g. orally daily for one week. Flavine emulsion locally.

X-ray therapy at 220 k.v. using two parallel opposing fields was started on 29 September. The patient had 25 treatments in five weeks and the total dose on its completion was 5100 r. (H.V.L. = 2 mm. cu.; filters 1 mm. cu., and 1 mm. Al., 12·5 m.a. ; fields 30 c.m. × 11·5 c.m.) The lesion was radio-resistant.

3.*xii*.52 : *Excision of ulcer from right leg by Mr. G. Qvist.—Findings* : Large infected ulcer over whole of anterior aspect of right leg involving skin and subcutaneous tissue ; fixed to anterior surface of anterior tibial muscle by deep fascia in centre and laterally over area about 2 in. square.

Sections from a number of blocks taken from different areas of the lesion all show extreme hyperplasia of the epidermis with diffuse papillomatosis and hyperkeratosis. There is much inflammation and scarring in the dermis and subcutaneous tissue. One block taken from the ulcerated centre portion of the lesion shows frankly invasive squamous cell carcinoma.

Following this surgical procedure the area healed slowly and in March 1953 was

completely healed except for a tiny area at the lower end of scar. Glands in groin still present.

13.*iv*.53 : Ulcer at the lower end of scar 2·5 × 2·0 cm. in diameter and looks like a marginal recurrence. Glands in groins are smaller.

Patient is to be admitted for excision of the residual ulcer by Mr. G. Qvist.

Dr. H. Haber : One section showed simple pseudo-epitheliomatous hyperplasia as seen in any other granulomatous conditions such as bromoderma, iododerma, systemic mycosis and specific granulomas. Another section had the same histology but in some places one could observe characteristic suprabasal cleft and bulla formations as seen in senile keratomas. A third section showed typical squamous-cell epithelioma. In my opinion this is a dermatitis vegetans leading to pseudo-epitheliomatous downgrowth of the epidermis which has degenerated, *via* keratoma, into a low-grade squamous epithelioma. The important thing is to emphasize that the lesion was primarily a benign one.

The following cases have been published in *Proc. R. Soc. Med.*, **46**, 901.

Purpuric Pigmented Lichenoid Dermatitis.—Dr. H. W. Barber and Dr. H. Haber.

Toxic Capillaritis.—Dr. K. D. Crow.

Lichen Spinulosus.—Dr. D. I. Williams.

Lichen Spinulosus with Cicatricial Alopecia.—Dr. P. J. Hare.

Unilateral Spider Naevi of Pregnancy.—Dr. S. Gold.

Familial Hyperhidrosis.—Dr. J. L. Franklin.

The following cases also were shown :

Case for Diagnosis. ? Morphoeic Atrophy of Subcutaneous Tissue.—Dr. M. Feiwel.

Lichen Sclerosus.—Dr. L. Forman.

Dermatitis Artefacta.—Dr. L. Forman.

Diabetic Xanthoma.—Dr. H. Black (for Dr. G. B. Mitchell-Heggs).

Naevus of Palm.—Dr. A. Jarrett (for Dr. P. J. Hare).

BOOK REVIEW.

Dermatology in General Practice.*

Much of this book is clearly set out, with numerous sub-headings and tables of differential diagnosis, but in spite of its title it is difficult to believe that it is intended for general practitioners, mainly because it fails to strike a reasonable balance between common and rare diseases. Many of the latter, some so rare that a dermatologist sees only one or two cases in a decade, are included and illustrated, to the exclusion of full accounts of the former. For example, pruritus vulvae is dismissed in a page, whereas one page and 5 illustrations are devoted to xanthoma tuberosum multiplex. Gold dermatitis is dealt with in 5 lines ; its treatment with dimercaprol is not mentioned.

On the other hand, where a common condition does receive extended consideration, a bewildering variety of treatments is presented with little guidance for the practitioner. For example, there are mentioned 5 types of treatment for scabies, 6 for pediculosis capitis ; and 7 internal treatments, 7 external applications, ultra-violet rays and x-rays for lichen planus.

The best part of the book—almost one-seventh of the text—is devoted to the fungus diseases, but here again there is much information which is of no value to the general practitioner. Details of fungus identification and classification, and of the composition of culture media occupy many pages, but there is no clear guidance on the selection of patients for x-ray epilation. Although thallium acetate is not recommended by the author, he gives details for its use, but fails to mention that it must never be given to children above 11 years of age.

The general arrangement is unusual : It is not surprising to find a chapter on the hair and scalp, but to follow this with separate chapters on the face, the trunk, the extremities and the mycoses, leads to overlapping and to curious anomalies—disseminated lupus erythematosus is included under diseases of the face, while ringworm is not mentioned under diseases of the scalp except in differential diagnosis. A good index minimizes these disadvantages, but makes unnecessary the illogical alphabetical arrangement of the chapter sub-headings.

Perhaps the most striking feature is the contrast between the histological and the clinical photographs. The former, of little interest to the general practitioner, are excellent ; the latter are often poor, some being frankly out of focus ; a few could be interchanged without further loss of value. R. E. B.

**Dermatology in General Practice.* By Jacob Hyams Swartz. London : Baillière, Tindall & Cox, 1953. Pp. 581. Illus. 253. Price 84*s*.

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CURRENT LITERATURE.

PAINFUL HYPERTRICHOSIS OF THE TRAGUS (PERICHONDRITIS IRRITATIVA PILOSA). C. Aguilera Maruri. (1952) *Actas dermo-sif. Madrid*, **44**, 194.

Hypertrichosis of the tragus of the ear may be a familial characteristic, but a painful type seems to have passed unrecorded hitherto.

A man complained of pain radiating from the right ear over the region supplied by the temporo-auricular nerve whenever he put his head down on a pillow. The tragus was redder than that of the other ear and covered with thick stiff hairs cut about 5 mm. above the level of the skin. Pinching the tragus not only gave the sensation of squeezing a brush, but also set off the pain. The hairs were pulled out with forceps, and apart from penetrating deeply showed no abnormality. When they had been removed the pain disappeared, and only reappeared about a year later after the patient had neglected to keep the hairs closely trimmed. G. W. B.

HEALTH PROBLEMS IN THE MANUFACTURE AND USE OF PLASTICS. D. K. Harris (1953). *Brit. J. industr. Med.*, **10**, 255.

In this article the author deals comprehensively with industrial hazards arising from plastics, mainly with reference to dermatitis. It is pointed out that most of the trouble arises from the formaldehyde products, usually owing to the presence of free formaldehyde or formic acid. In the case of polyvinyl chloride toxicity most often arises from plasticizers which are gradually liberated from the plastic as it ages. The tendency nowadays is for these plasticizers to be improved so that trouble from this source is less likely to occur in future.

The methacrylate plastics are fairly harmless but a derivative, methyl alpha chloracrylate, is a strong irritant and vesicant which is encountered in experimental work.

This article contains a great deal of detailed information about the chemistry and properties of plastics which is not readily to be found in compact form elsewhere. The author has had a very great, perhaps unique, experience of the medical aspects of this industry and his article would be worth consulting by anybody who has to deal with these cases. F. R. B.

M. CANIS RINGWORM AND LOSS OF SCHOOLING. B. A. Thomas. (1953) *Brit. med. J.*, **1**, 536.

Scalp ringworm in children in South Wales is commonly due either to *M. audouini* or to *M. canis*. Various foci of the disease exist in which one or other infecting organism is responsible, and these areas remain distinct from each other. This report deals particularly with the study of *M. canis* infection in the Newport district.

As a result of his own experience and that of others the author decided as an experiment to allow children with *M. canis* ringworm to remain at school provided they wore a hat and continued treatment with Whitfield's ointment. In this series of 24 cases no cross-infection occurred.

The author concludes that while x-ray epilation is necessary in the treatment of *M. audouini* ringworm, patients infected with *M. canis* can be cured in a few weeks without epilation and need not suffer loss of schooling. The latter is, no doubt, a very important point having regard to the considerable loss of school time which is occasioned by this comparatively trivial disease.

F. R. B.

ACTION OF METHIONINE IN HUMAN PELLAGRA AND EXPERIMENTAL BLACK TONGUE. G. Caletti. (1953) *Dermatologia*, **4**, 16.

A useful little article concerning a series of experiments carried out with various diets in children affected with pellagra. According to the author, methionine is more effective than nicotinic acid in producing a speedy resolution (3 g. a day). It also reverses experimental black tongue in dogs and apparently protects the liver against fatty degeneration (which nicotinic acid does not do). Lipocaic and choline do not affect the cutaneous picture of pellagra but relieve the gastro-intestinal symptoms. D. S. W.

CHLORAMPHENICOL IN DERMATOLOGY. A. Mariconda and G. Montilli. (1953) *Dermatologia*, **4**, 12.

A review of the results obtained with 2% chloramphenicol ointment. The results are very much the same as have been experienced in this country. In the first article the authors state that in a mixed group of staphylococcal and streptococcal conditions, clinical cure was achieved in the majority of cases and in a very high proportion of cases of impetigo. Infective eczema responded in half the cases. They had four cases (2%) with sensitization and 11 cases apparently made worse by this treatment. D. S. W.

CHLORAMPHENICOL IN LOCAL SKIN TREATMENT. X. Vilanova, F. de Dulanto, and L. Alvarado. (1953) *Dermatologia*, **4**, 33.

The second paper concerns chloramphenicol given by mouth and by injection to 16 patients affected with various conditions. Best results were obtained with impetigo, folliculitis and herpes zoster. No success was recorded in vegetating pyodermas. D. S. W.

THE CHEMISTRY AND BIOLOGY OF THE SEBUM. G. Miescher, H. Lincke and P. Rinderknecht. (1953) *Dermatologica*, **106**, 76.

This is a study of the bactericidal properties of different constituents of normal human sebum tested against a variety of organisms. The ether-soluble fraction of sebum is strongly bactericidal with a selective action against, for example, *Streptococcus haemolyticus*. The fatty acids are mainly responsible for this activity, without distinction whether they are free or esterified. The non-saponifiable constituents, such as the higher aliphatic alcohols, steroids and hydrocarbons, are almost inert. A continuation of these studies is promised. J. F. S.

IS LYMPHOGRANULOMA VENEREUM CAUSED BY A VIRUS OR BY A MYXOMYCES? P. Pirilä. (1953) *Dermatologica*, **106**, 14.

Studies on pus from 18 cases of " Climatic Bubo " and on the peritoneal exudate of inoculated mice have demonstrated bodies which Pirila interprets as being developmental stages of an organism belonging to the class called by mycologists Myxomyces and by zoologists Mycetozoa. Many of these appearances are figured in his accompanying microphotographs. He attributes the great viscosity of the pus, and its high calcium content, with numerous granules of calcium carbonate, to the activity of these organisms, many species of which form a slime rich in Ca. J. F. S.

EFFECT OF AUREOMYCIN, CHLOROMYCETIN AND TERRAMYCIN ON PEMPHIGUS VULGARIS DURING TREATMENT WITH ACTH. S. Kaae and P. Marcussen. (1953) *Dermatologica*, **106**, 95.

Of five patients suffering from acute exacerbations of pemphigus vulgaris treated with ACTH, one, aged 99, died of pneumonia, and the remaining four were so improved that daily counts of all fresh blisters became possible; thus the effect of the antibiotics could be assessed in the absence of complicating septic infection, control of which might have given the additional remedy spurious credit for ameliorating the pemphigus itself. None of the three antibiotics tried had any demonstrable effect on the count of the blisters. J. F. S.

ECZEMATID-LIKE PURPURA. C. Doucas and J. Kapetanakis. (1953) *Dermatologica*, **106**, 86.

The authors' report on 129 carefully followed cases of an eruptive, purpura-like disease, with somewhat eczematoid characters, which they observed in the period March to August, in each of three successive years, 1949–51. It affected mostly adults, the majority of the patients being in the middle decades of life, but the extremes were 7 and 72. Females predominated to the extent of 75 to 54. The eruption came in waves over a period of several months up to two years, then faded, leaving haemosiderin pgimentation. The lower legs and thighs were the sites most affected, but the trunk and upper extremities were occasionally involved. Scaling was common, papules rather uncommon. These features differentiate it from the dermatosis of Gougerot and Blum. No changes were found in the blood, but there was increased capillary fragility. No cause could be found. The combination of rutin and vitamin C acted well, and antihistamine drugs controlled the occasional itching. J. F. S.